1.   (Amended) An intraocular correction lens adapted for implantation in the posterior chamber of an eye between the iris and the intact natural lens, comprising a centrally located optical part capable of providing an optical correction and a peripherally located supporting element capable of maintaining said optical part in said central location, wherein said optical part and said support element together have a concave posterior surface which is part of a non-spherical surface that is rotation symmetric around the optical axis of said optical part, wherein the intersection between said non-spherical surface and any plane containing the optical axis represents a flawless curve free from discontinuities and points of inflection.

2.   (Amended) A correction lens according to claim 1, wherein the flawless curve is at least extended in a direction towards the lens periphery within an area defined by the projection of a natural lens in an eye in which the lens is adapted for implantation, on the posterior surface of said correction lens in a direction parallel to the optical axis.

5.   (Twice Amended) A correction lens according to claim 2, wherein the supporting element comprises an inner part and a peripheral part designed so as to be at least partially in contact with a ciliary sulcus and zonulas in an eye in which the correction lens is adapted for implantation.

9.   (Amended) A correction lens according to claim 1, wherein the central radius of the posterior surface of the optical part is adapted to be different from the central radius of a natural lens in an eye in which the correction lens is adapted for implantation, in a non-accommodated state.

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17.   (Amended) A correction lens according to claim 16, wherein the three tangentially attached circle segments consist of a centrally located segment having a radius different from that of a natural lens in an eye in which the correction lens is adapted for implantation in its non-accommodated state and two peripheral segments.

21.   (Amended) A correction lens according to claim 53, wherein the curve formula is adjusted with one or several additional polynomal factors $a_1r^4 + a_2r^6 + a_3r^8 + a_4r^{10} + ... + a_nr^{2(n-1)}$, wherein a_1, a_2, a_3, a_4, ...a_n are aspheric constants, thereby generating the curve formula $z = cvr^2/(1+\sqrt{(1-cv^2(cc+1)r^2)}) + a_1r^4 + a_2r^6 + a_3r^8 + a_4r^{10} + ... + a_nr^{2(n-1)}$.

22.   (Twice Amended) A correction lens according to claim 53, wherein the flawless curve has a central radius proximal to the optical axis less than the radius of a natural lens in an eye in which the correction lens is adapted for implantation, in its non-accommodated state, said curve substantially following a parabolic or hyperbolic curve formula.

23.   (Twice Amended) A correction lens according to claim 53, wherein the flawless curve has a central radius proximal to the optical axis larger than the radius of a natural lens in an eye in which the correction lens is adapted for implantation in its non-accommodated state, said curve substantially following an ellipsoidal curve formula.

35.   (Twice Amended) A method of selecting a suitable implantable correction lens for implantation in the posterior chamber of an eye between the iris and the intact natural lens, the correction lens comprising a centrally located optical part capable of providing an optical correction and a peripherally located supporting element capable of maintaining said

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optical part in said central location, wherein said optical part and said support element together have a concave posterior surface which is part of a non-spherical surface that is rotation symmetric around the optical axis of said optical part, wherein the intersection between said non-spherical surface and any plane containing the optical axis represents a flawless curve free from discontinuities and points of inflection, the method comprising the steps of:

    (i)   determining the power of optical correction;

    (ii)   estimating the anterior radius of the natural lens in its non-accommodated state;

    (iii)   selecting a posterior central radius of the correction lens different from that of the natural lens in its non-accommodated state;

    (iv)   determining the total lens vault based on the data arriving from steps (ii) and (iii); and

    (v)   selecting a flawless curve free from points of inflection representing the interaction of the posterior surface and a plane containing the optical axis so as to provide an aspheric posterior lens surface.

40.   (Twice Amended) A method of obtaining a suitable intraocular correction lens implantation for an eye, comprising the steps of:

    (i)   determining the power of optical correction;

    (ii)   estimating the anterior radius of the natural lens in its non-accommodated state;

    (iii)   selecting a posterior central radius of the correction lens different from that of the natural lens in its non-accommodated state;

(iv)   determining the total lens height from the data arriving from steps (ii) and (iii); and

(v)   selecting a lens from a kit of correction lenses, wherein each lens is adapted for implantation in the posterior chamber of an eye between the iris and the intact natural lens and comprises a centrally located optical part capable of providing an optical correction and a peripherally located supporting element capable of maintaining said optical part in said central location, wherein said optical part and said support element together have a concave posterior surface which is part of a non-spherical surface that is rotation symmetric around the optical axis of said optical part, wherein the intersection between said non-spherical surface and any plane containing the optical axis represents a flawless curve free from discontinuities and points of inflection, said kit containing lenses with a range of different optical powers with dimensional features resulting from the estimation of a suitable average population.

Please add the following claims 49-54:

--49.   (NEW) A correction lens according to claim 6, wherein the peripheral part follows a curve diverging towards a plane perpendicular to the optical axis.--

--50.   (NEW) A correction lens according to claim 7, wherein the peripheral part follows a curve diverging towards a plane perpendicular to the optical axis.--

--51.   (NEW) A correction lens according to claim 21, wherein the flawless curve has a central radius proximal to the optical axis less than the radius of a natural lens in the eye of an individual in which the correction lens is adapted for implantation, in its non-accommodated state, said curve substantially following a parabolic or hyperbolic curve formula.--

--52. (NEW) A correction lens according to claim 21, wherein the flawless curve has a central radius proximal to the optical axis larger than the radius of a natural lens in the eye of an individual in which the correction lens is adapted for implantation in its non-accommodated state, said curve substantially following an ellipsoidal curve formula.--

--53. (NEW) An intraocular correction lens adapted for implantation in the posterior chamber of an eye between the iris and the intact natural lens, comprising a centrally located optical part capable of providing an optical correction and a peripherally located supporting element capable of maintaining said optical part in said central location, wherein said optical part and said support element together have a concave posterior surface which is part of a non-spherical surface that is rotation symmetric around the optical axis of said optical part, wherein the intersection between said non-spherical surface and any plane containing the optical axis represents a flawless curve free from discontinuities and points of inflection, wherein the flawless curve substantially follows the curve formula $z = cvr^2/(1 + \sqrt{(1-cv^2(cc+1)r^2)})$, where z is the axial coordinate of the curve, r is the radial coordinate of the curve, cv is the reciprocal central radius of the optical part and cc is the conic constant to shape the curve which is not equal to zero.--

--54. (NEW) An intraocular correction lens adapted for implantation in the posterior chamber of an eye between the iris and the intact natural lens, comprising a centrally located optical part capable of providing an optical correction and a peripherally located supporting element capable of maintaining said optical part in said central location, wherein said optical part and said support element together have a concave posterior surface which is part of a non-spherical surface that is rotation symmetric around the optical axis of

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said optical part, wherein the intersection between said non-spherical surface and any plane containing the optical axis represents a flawless curve free from discontinuities and points of inflection, wherein the flawless curve representing the posterior is a spline polynome constructed from non-uniform rational B-splines (NURBS).--